

REMARKS

Applicant requests favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

Claims 12-18 are pending in the application, with claim 12 being the sole independent claim. Corrections of minor informalities have been made to claim 12. No new matter has been added.

Objection to the claims

Claim 12 has been objected to due to informalities. In response, Applicant has amended claim 12 as suggested by the Examiner. Applicant, therefore, requests withdrawal of this objection.

Rejections under 35 U.S.C. § 103(a)

Claims 12-14 and 16-18 have been rejected as being unpatentable over U.S. Patent No. 4,665,865 (“Zubrod”) in view of U.S. Patent No. 5,281,398 (“Hyppanen”). Claim 15 has been rejected as being unpatentable over Zubrod in view of U.S. Patent No. 5,870,976 (“Cooke”). Applicant respectfully traverses these rejections.

Independent claim 12 of this application recites, among other features, an arrangement in a circulating fluidized bed reactor system, wherein a gas plenum is divided into at least two separate chambers by at least one partition formed by at least one water tube panel as an extension of at least one of the water tube panels of a reaction chamber.

According to the Office Action, the cross flue 11 of Zubrod is divided into at least two separate chambers by at least one partition formed by at least one water tube panel as an extension of at least one of the water tube panels of a reaction chamber. Specifically, the Examiner states that a first chamber is located to the left of water tubes 35 and 36, and a second

chamber is located to the right of water tubes 35 and 36, and that these tubes define an extension of at least one water tube panel of a reaction chamber.

Applicant respectfully disagrees with this reading of Zubrod. While the cross flue 11 may be intersected by adjacently disposed first (36) and second (35) water tubes, the water tubes 35 and 36 in that patent are separate tubes. This can best be seen in area VI of Fig. 4, further supported by Fig. 5 of Zubrod. The water tubes 35 and 36 do not form a water tube panel, and Zubrod does not teach or suggest forming, in the cross flue 11, a partition formed by a water tube panel. Instead of the cross flue 11 being divided into two separate chambers, it is actually an undivided space having isolated pairs of intersecting pipes.

Further, according to Zubrod, outside of the front wall 12 and in front of the intermediate ceiling 4, there are tube planes 41 formed of the riser pipes 14 of the front wall 12. The tube planes 41 do not divide a gas plenum positioned above the reaction chamber, and thus do not support the intermediate ceiling, i.e., the bottom of the gas plenum. Applicant notes that these tube planes 41 also do not correspond to a partition formed by a water tube panel as described in the subject application.

Thus, Zubrod fails to teach or suggest an arrangement in a circulating fluidized bed reactor system, wherein a gas plenum is divided into at least two separate chambers by at least one partition formed by at least one water tube panel as an extension of at least one of the water tube panels of a reaction chamber, as recited in independent claim 12.

Hyppanen teaches a circulating fluidized bed reactor with multiple centrifugal separators 12. As seen in Figs. 1-3 of Hyppanen, cleaned gases are conducted from the separators 12 into a duct 60 extending over the reaction chamber 10 to a convection section 64. Hyppanen does not teach or suggest dividing the duct 60 into separate chambers. Therefore, that

patent also fails to teach or suggest an arrangement in a circulating fluidized bed reactor system, wherein a gas plenum is divided into at least two separate chambers by at least one partition formed by at least one water tube panel as an extension of at least one of the water tube panels of a reaction chamber. Applicant submits, therefore, that independent claim 12 is patentable over the proposed combination of Zubrod and Hyppanen.

Cooke discloses a so-called package boiler wherein tubes are bent in a serpentine fashion so as to form a plurality of superimposed gas passages. Package boilers are very small compared to circulating fluidized bed reactor systems. According to Cooke, package boilers can, for example, be easily assembled in existing buildings through existing doorways. Applicant submits that one of ordinary skill in the art, in designing a circulating fluidized bed reactor system, would not assume that teachings regarding the provision of superimposed gas passages in a package boiler can be applied. Thus, Applicant submits that it is not appropriate to combine the Zubrod and Cooke patents as the basis of a § 103 rejection. Regardless, however, Cooke does not teach or suggest a gas plenum divided into at least two chambers, so the proposed combination of Zubrod and Cooke does not teach or suggest an arrangement in a circulating fluidized bed reactor system, wherein a gas plenum is divided into at least two separate chambers by at least one partition formed by at least one water tube panel as an extension of at least one of the water tube panels of a reaction chamber. Applicant submits, therefore, that claim 12 is also patentable over the proposed combination of Zubrod and Cooke.

For the foregoing reasons, Applicant submits that the present invention, as recited in independent claim 12, is patentable over the cited art, whether that art is taken individually or in combination.

Dependent claims 13-18 are also submitted to be patentable, due both to their dependency from claim 12, as well as to the additional features that they recite. Applicant requests further individual consideration of these dependent claims.


This paper is believed to be fully responsive to the outstanding Final Office Action. However, if the Examiner deems that it would be helpful in expediting prosecution of this application, then Applicant requests that the Examiner contact Applicant's undersigned attorney in order to arrange a personal interview.

Applicant further submits that this Amendment After Final Rejection places this application in condition for allowance. This Amendment was not earlier presented because Applicant believed that the prior Amendment placed the application in condition for allowance. Accordingly, entry of the instant Amendment, as an earnest attempt to advance prosecution and reduce the number of issues, is requested under 37 CFR 1.116.

Applicant submits that this application is in condition for allowance. Favorable reconsideration and an early Notice of Allowance are requested.

Applicant's undersigned attorney may be reached in Washington, D.C. by telephone at (202) 530-1010. All correspondence should be directed to the address listed below.

Respectfully submitted,



Attorneys for Applicant
Steven E. Warner (Reg. No. 33,326)
Melody H. Wu (Reg. No. 52,376)

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3800
Facsimile: (212) 218-2200

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